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PESTS NOT KNOWN TO OCCUR IN THE UNITED STATES OR OF LIMITED DISTRIBUTION NO. 87: A THRIPS

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Pest

A THRIPS
Frankliniella cestrum Moulton

Order: Family

Thysanoptera: Thripidae

Economic Importance

F. cestrum is very common in Chile. It is attracted to the flowers of a great number of plants, feeding on pollen and leaving the floral parts as soon as flowering ends (González 1985). Its feeding also damages grape berries (González 1983).

Hosts

The recorded host list includes *Brassica rapa* (turnip) (Gonzalez 1985), *Cestrum parqui* (Jacot-Guillarmod 1974), *Conium maculatum* (poison-hemlock), *Cynara scolymus* (artichoke), *Gladiolus hortulanus* (gladiolus) (Bailey and Campos-S. 1965), *Hordeum murinum* (wall barley), *Juncus graminifolius* (Jacot-Guillarmod 1974), *Lens culinaris* (lentil) (Bailey and Campos-S. 1965), *Lilium* sp. (lily) (Jacot-Guillarmod 1974), *Marrubium vulgare* (horehound) (Bailey and Campos-S. 1965), *Medicago sativa* (alfalfa) (González 1983), *Peumus boldus*, (boldo), *Phaseolus vulgaris* (bean) (Bailey and Campos-S. 1965), *Prunus* spp. (plums) (Faure 1955), *Prunus persica* (peach), *Raphanus sativus* (radish) (González 1985), *Rosa* sp. (rose) (Bailey and Campos-S. 1965), *Rosa centifolia* (cabbage rose) (González et al. 1973), *Rubus* spp. (raspberries) (González 1985), *Salix viminalis* (Bailey and Campos-S. 1965), *Solanum tuberosum* (potato) (González 1985), *Spartium junceum* (Spanish broom), *Trevoa toinervis*, *Triticum aestivum* (wheat), *Vitis vinifera* (wine grape), *Zantedeschia aethiopica* (calla lily), and *Zea mays* (corn) (Bailey and Campos-S. 1965).

General Distribution

This species is known only from Chile (Jacot-Guillarmod 1974).

Characters

ADULT FEMALES (Fig. 1) - Body length about 1.66 mm. Uniform deep brown, pterothorax slightly orange brown. Antennae brown except segment II shaded yellow at tip; III yellow in basal half, shaded grayish brown in distal half; IV light grayish

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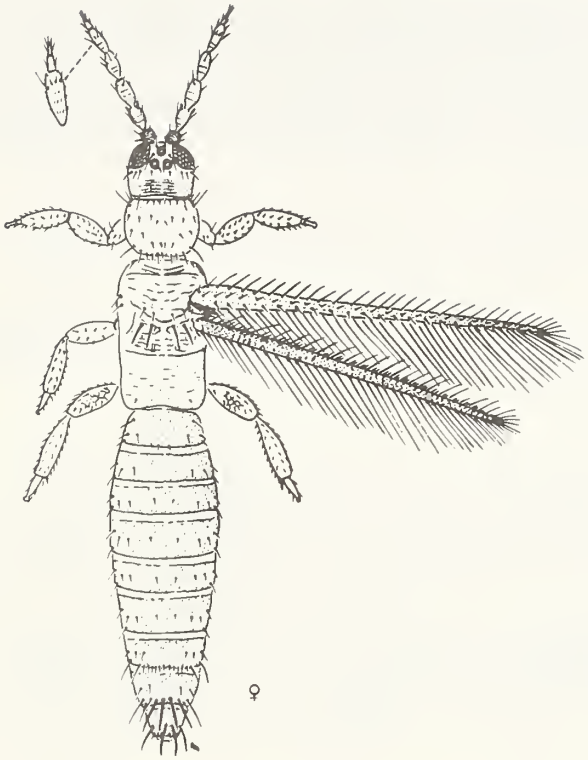
Frankliniella cestrum distribution map (Prepared by Technical Information Systems Staff, PPQ, APHIS, USDA).

brown in basal half. Legs dark brown except foretibiae and all tarsi uniformly light yellowish brown. Forewings deep brown (veins darker) with broad, light yellowish brown area at base (Moulton 1926).

Antennae 8-segmented, style (segments VII-VIII) about 33 µm long, VIII about twice as long as VII, VII longer than wide (Fig. 2). Head with three pairs of ocellar setae, interocellar setae about 60 µm long, inside ocellar triangle; postocular setae iv 35-42 µm long (Fig. 3). Pronotum with well-developed anteromarginal, anteroangular and posteroangular setae, the latter 71-96 µm long. Forewings fully developed, with complete row of 20-22 setae on forevein and another complete row of about 16 setae on hindvein (Fig. 4). Abdominal tergites V-VIII each with pair of submarginal ctenidia; tergite VIII with complete posteromarginal comb. Abdominal sternite III with two small, submedial glandular areas.

(Figs. 1-4)



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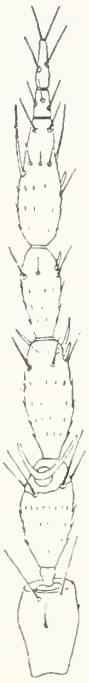

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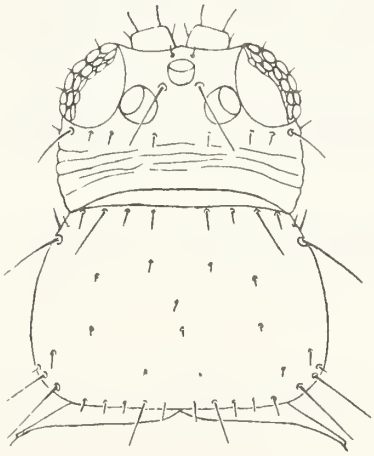

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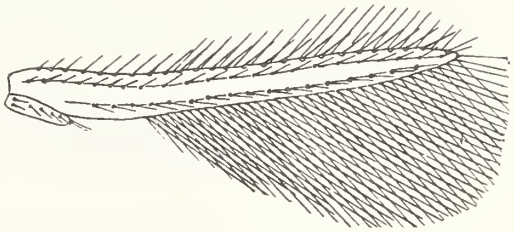

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Frankliniella cestrum adult. 1. Female 2. Right antenna. 3. Head and prothorax. 4. Right forewing (1 from González 1983; 2-4 from Moulton 1926).

ADULT MALES - Similar in color as females but with antennae and legs lighter (Moulton 1948); smaller than females. Abdominal tergite VIII with complete posteromarginal comb, teeth sparse; tergite IX with two pairs of stout, spinelike medial setae. Sternal glandular areas on segments III-VII 3-4 times as wide as long.

No literature is available for immatures.

Characteristic Damage

Damage to grape berries appears as a russeting (González 1983). No other characteristic damage described for this pest is available in the literature.

Detection Notes

F. cestrum adults can be introduced into new areas in shipments of fruit, stems, or cut flowers. This pest was intercepted 142 times during the past 10 years. It was detected mostly in preclearance inspections in Chile and occasionally at U.S. ports of entry, mainly on Rubus spp. cargo. Shipments of Asparagus officinalis (asparagus), Dianthus sp. (carnation), Fragaria sp. (strawberry), Gladiolus sp., Limonium sp. (statice), and Persea sp. (avocado), were also infested, but have not been recorded as hosts in the available references.

Vegetative parts, cut flowers, and fruits are regulated under Title 7, Parts 319.37, 319.56, and 319.74, of the Code of Federal Regulations. Fruit of peach, plum, apricot, nectarine, and grapes requires treatment as a condition of entry because of other pests. Cut flowers, propagative material, and fresh fruit and vegetables imported from Chile are subject to inspection, and treatment may be required based on inspection findings. Fresh plant parts of some of its hosts, such as corn and wheat, do not move in commerce.

This very mobile thrips can be found on flowering plants or those with fleshy fruits.

This species may be detected in the following ways.

1. Examine flowers, soft tissues, stems, petioles, and fruits for eggs, nymphs, and adults.

2. Look under bark of grapevines for adults during winter.

Collect suspect specimens in AGA (solution of 8 parts ethanol, 5 parts distilled water, and 1 part each of glycerine and glacial acetic acid) or in 70 percent ethanol and submit for identification with the pertinent collection data.

Biology

Adults overwinter under the bark of grapevines and other plants. Later, they move to flowering grapes. As summer progresses, they emigrate to various plants where another generation develops (González 1983). The female lays its eggs in the soft tissues, stems, petioles, and fruits (González 1985). No other information on biology is available.

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